

UNITED STATES DISTRICT COURT
DISTRICT OF SOUTH DAKOTA
SOUTHERN DIVISION

SIOUX STEEL COMPANY, a South Dakota corporation,) CIV. 15-4136
vs.)
KC ENGINEERING, P.C., an Iowa corporation,)
Defendant.)

**PLAINTIFF'S MEMORANDUM IN
SUPPORT OF MOTION TO STRIKE
DEFENDANT'S EXPERT WITNESS**

JOHN W. CARSON

INTRODUCTION

Plaintiff Sioux Steel Company (“SSC”), by and through its attorneys of record, moves the Court for an *Order* striking the opinion offered by Defendant’s expert, John W. Carson (“Carson”).

Carson’s opinion fails to meet the reliability standard necessary for expert witness causation testimony. *See* Fed. R. Evid. 702; *Burley v. Kytec Innovative Sports Equipment, Inc.*, 737 N.W.2d 397, 402 (S.D. 2007); *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993). Carson’s opinion is contrary to the only recognized United States engineering standard regarding agricultural steel bin loads, and should be barred pursuant to Rule 702 of the Federal Rules of Evidence.

Alternatively, because Carson’s employer received confidential information from SSC regarding the issues in this case *prior* to the lawsuit, Carson should be barred from testifying because he has misused SSC’s confidential, proprietary information, to the detriment of his employer’s former potential client, SSC. In other words, Carson’s testimony is a violation of confidentiality and the ethical code applicable to Carson and his employer. Carson admits that he has taken SSC’s confidential information, and the communications associated with it, and used them in his report for

Defendant, while enriching himself and his employer. SSC seeks to disqualify Carson pursuant to the Court's inherent power to disqualify expert testimony. *See U.S. v. Salamanca*, 244 F.Supp. 2d 1023, 1025 (D.S.D. 2003).

FACTUAL BACKGROUND

This case arises out of Defendant's botched engineering design review, which caused the collapse of an agricultural silo in Tepic, Mexico, and cost two workers their lives, and over a million dollars in financial loss. As a direct and proximate cause of Defendant's negligent structural engineering design review, Plaintiff suffered substantial pecuniary loss.

Sioux Steel Company is in the business of manufacturing and selling hopper silos for handling and storing commodities. Amended Complaint ¶6. In about 2012, SSC designed a new thirty-foot ("30") Diameter Hopper Cone Assembly and silo bin for storing bulk density agricultural commodities. Affidavit of G. Verne Goodsell ("Goodsell Aff."), Exhibit ("Ex.") A, Expert Report of John W. Carson, Ph.D., November 21, 2016 ("Carson Report"), pg. 4. Prior to manufacturing and selling the Hopper Cone Assembly and silo bin, Plaintiff took the prudent and responsible step to have its new design vetted by an outside professional engineering firm to determine whether the design would withstand the loads imposed while in use. Goodsell Aff., Ex. A, Carson Report, pg. 1-3.

On July 17, 2012, Plaintiff contacted Carson's firm, Jenike & Johanson, seeking a design review. Goodsell Aff., Ex. A, Carson Report, pg. 12. In response to SSC's initial contact, an employee of Jenike & Johanson ("J & J"), Tom Baxter, requested and received the specifics of the new Hopper/Silo design. *Id.* Thereafter, J & J's senior engineer, Greg Petro, consulted with Plaintiff's engineer, Chad Kramer, to discuss the design, and J & J's retention for the design review. *Id.* Ultimately, Plaintiff did not retain J & J for this work. *Id.* The only evidence of the discussion between

SSC and J & J was a phone log entered by Mr. Petro, which states that J & J's loading calculations are much higher than SSC's, concluding there was "no job here." Goodsell Aff., Ex. B, J & J Phone Log.

Instead, SSC retained Defendant to perform a structural engineering analysis and design review of two hopper cones that are proposed for use with SSC's 18' diameter and 30' diameter grain bins. Goodsell Aff., Ex. C, Retention Letter, July 30, 2012. This is the *exact same project* for which J & J was contacted and provided confidential information. Goodsell Aff., Ex. A, Carson Report, pg. 12. After completing the project, Defendant delivered its report to Plaintiff and initially advised Plaintiff that the design of the 30' diameter hopper was not sufficient as designed. Goodsell Aff., Ex. D, KC Letter, August 28, 2012.

On October 2, 2012, Defendant revised its position with respect to its initial report, concluding instead that the design of the 30' diameter hopper was adequate, and safe for handling the load capacity, for commodity storage and delivery. Goodsell Aff., Ex. E, KC Report, October 2, 2012. Defendant's initial concern regarding the design is not material to the facts giving rise to this case. Relying on the professional conclusion of Defendant, Plaintiff finalized plans for the assembly and manufacturing of the hopper silo, and ultimately, marketed and sold the hopper silo to its customers. *See* Goodsell Aff., Ex. F, Deposition of Chad Kramer ("Kramer Depo."), 40:11-16.

Defendant knew, or should have known, that Plaintiff retained the Defendant specifically to review the design for load capacity of commodities and the safe storage and handling of commodities. Goodsell Aff., Ex. G, Deposition of Derek Matthies ("Matthies Depo."), Ex. G, 62:8-18; *see also*, Amended Complaint ¶11. Further, Defendant knew that SSC had used the only recognized standard in the United States for calculating bulk density loads exerted by free-flowing grains on storage bins -- ANSI/ASAE EP433 ("EP 433"). Goodsell Aff., Ex. A, Carson Report, pg. 6. Defendant did not advise SSC against using the EP 433 standard. Goodsell Aff., Ex. E, KC Report, October 2, 2012. To the

contrary, Defendant contracted to apply this standard to the design. Goodsell Aff., Ex. C, Retention Letter, July 30, 2012. Defendant did not warn SSC against the use of soybean meal in the Hopper/Silo. *Id.*

In November of 2014, Molinos Azteca (“Molinos”), an authorized distributor for SSC, sold a 30’ Hopper/Silo to Agropecuaria El Avion (“Agropecuaria”) for the handling, storage, and delivery of soybean meal. Amended Complaint ¶12. Molinos installed the hopper cone and silo at the Agropecuaria plant in Tepic, Mexico. *Id.*

On or about February 2, 2015, the Agropecuaria Hopper/Silo, approved by Defendant, suffered a catastrophic failure. Two employees of Agropecuaria were discharging the contents of the Hopper/Silo for delivery to Agropecuaria customers when it suddenly and without warning failed, discharging 681,820.00 Kg (approximately 750 tons) of soybean meal and metal debris onto the workers. *See* Goodsell Aff., Ex. A, Carson Report, pg. 3. The two Agropecuaria employees suffered fatal injuries. *Id.* As a result of the failure, Agropecuaria sought direct damages from SSC for the loss of equipment and soybean meal, and for contribution and indemnity under Mexican law for the death of its two employees. (Document 17, Amended Complaint, ¶ 26.)

Shortly after the accident, an investigation was undertaken to determine the cause of the failure. *See generally*, Goodsell Aff., Exs. H & I, ESI & Nohr Reports. The structural failure and discharge of soybean meal occurred when the bolted vertical seams in the hopper separated from the silo and discharged the contents of the silo. *Id.* The investigation revealed a design defect in the bolt spacing and depth in the vertical metal seam at the top of the hopper. *Id.*

It is undisputed that the seam design failed to meet industry loading standards for steel bins as set forth in the American Standard, EP 433, and Australian Standard “Loads on Bulk Solid Containers.” Goodsell Aff., Ex. J, Deposition of John W. Carson (“Carson Depo.”), 24:1-3. Carson

agrees that EP 433 is the *only* recognized United States' standard for calculating bulk solid loads in steel bins. *Id.*, at 23:3-5.

The defective and inadequate vertical seam design existed at the time Defendant performed its structural engineering analysis. *Id.*, at 24:1-3. It is undisputed that Defendant failed to review the bolt spacing on the vertical seam of the Hopper. *Id.*, at pg. 7. It is also undisputed that Defendant never advised SSC of this error. Goodsell Aff., Ex. D.

LITIGATION BACKGROUND

As a result of the Agropecuaria failure, and resulting damages, SSC initiated this diversity action against Defendant alleging professional negligence for its failure to conduct a competent review of the Hopper/Silo design, and ultimately, negligently approving the defective design. (Document 17.) Defendant retained Carson as an expert witness in this matter. Carson authored an expert report, discussing the cause of the bin failure, among other issues. Goodsell Aff., Ex. A. Although Carson has worked in the engineering field for a number of years, he is not (nor has he ever been) a registered professional engineer. Goodsell Aff., Ex. J, Carson Depo., 6:2-4. Furthermore, Carson's expertise is in the field of mechanical engineering -- not structural engineering. Goodsell Aff., Ex. A, Carson CV.

In his report, Carson offers opinions on thirteen (13) items (hereinafter "Carson's Opinions" or the "Opinions"). Generally, Carson's Opinions are as follows:

- 1. SSC knew that this silo was to be used to store soybean meal and that this material has the potential to be non-free flowing.**
- 2. It was not appropriate for SCC to use ASAE EP 433 to design the silo, since soybean meal can be non-free flowing.**
- 3. I find it surprising that SCC made a mistake in their design of the bolted joints that formed the hopper radial seams, since they had for years manufactured and supplied bolted cylindrical silos.**

4. Since KC proposed to perform their review using ASAE EP 433 and SSC did not object, it was reasonable for KC to assume that the material to be stored in the silos they were analyzing would be free flowing.
5. KC had no way to know that soybean meal was one of the materials that would be stored in SSC's hopper silos.
6. KC's lack of review of the design of the hopper radial seams was potentially an oversight on their part.
7. SSC should have provided information to Agropecuaria as to how to safely operate their silo when storing soybean meal, including, at a minimum, recirculation of the meal.
8. The manner in which the air cannons were fired further compacted the meal in the silo and significantly increased loads on the silo walls, particularly in the hopper section.
9. Moisture migration likely occurred while the meal was sitting in the silo after it was filled. This resulted in even more gain the meal's cohesive strength than occurred due to gravity-induced compaction pressures alone.
10. Because the conical hopper section had a slope of 45°, a *funnel flow* pattern developed upon discharge. The result was that there would have been no change in material-induced loads acting on the hopper walls from the initial-fill loads unless an arch or rathole collapsed or air cannons compacted the soybean meal.
11. This silo did not fail because of material-induced loads resulting from gravity alone.
12. SSC's Kramer was aware that higher material-induced loads should have been used to design the hopper section.
13. The silo failed because the loads that were imposed on the hopper section were greater than the loads due to gravity alone.

Goodsell Aff., Ex. A, Carson Report, pg. 5-13. Based on these Opinions, Carson reaches six separate conclusions (hereinafter, "Carson's Conclusions" or the "Conclusions"):

1. A non-free flowing material, soybean meal, was stored in it.
2. SSC failed to provide information to Agropecuaria as to how to safely operate this silo.
3. The air cannons, which were supplied by SSC, compacted the soybean meal in the silo prior to its failure.

4. Allowing soybean meal to sit in the silo without movement for 4 ½ days while the ambient temperature dropped further compacted the meal.

5. The silo did not fail due to material-induced loads resulting from gravity alone.

6. The silo failed because significantly higher, dynamic loads were imposed on its hopper section than the loads caused by gravity alone. These loads were due either to a collapsing arch or rathole or due to the firing of the air cannons.

Id., at 13-14.¹ In addition to the Opinions and Conclusions discussed in his initial report, Carson authored a Supplemental Report on December 1, 2016, which included additional Opinions and Conclusions based on his review of the video tape footage of the failure. Goodsell Aff., Ex. N, Supplemental Report of John W. Carson, Ph.D., December 1, 2016 (“Supplemental Report”).

During his depositions, Carson made a number of concessions with respect to his Opinions and Conclusions that warrant discussion for purposes of this motion.

First and foremost, Carson concedes that American National Standards Institute (“ANSI”) and American Society of Association Executives (“ASAE”) EP 433 (“EP 433”) are the only U.S. standards recognized for steel storage bins.

Q Are there any other U.S. standards that are recognized for steel storage bins other than ANSI and ASAE EP 433?

A That is the only current U.S. standard.

Goodsell Aff., Ex. J, Carson Depo. 23:1-5. Soybean meal, the agricultural product stored in the Tepic Hopper/Silo has a lower bulk density than the bulk density of wheat which is specifically identified in EP 433. Goodsell Aff., Ex. K, ANSI and ASAE EP 433; 4.1.1.4); *see also*, Ex. L, O’Mara Depo., 69:4-6.

Next, although true that soybean meal has the potential to *become* “non-free-flowing,” Carson acknowledges that “non-free-flowing” phenomenon, such as bridging, arching, and “ratholing,” also

¹ A complete statement of Mr. Carson’s Opinions and Conclusions can be found in his report. Goodsell Aff., Ex. A.

occurs with the “free-flowing” grains specifically identified by EP 433, such as wheat and corn. Goodsell Aff., Ex. J, Carson Depo. 27:5-11. In other words, Carson concedes that wheat and corn also have the potential to *become* “non-free-flowing,” which is to say that this is not a characteristic unique to soy meal.

Further, Carson concedes that EP 433 discusses overpressure and dynamic loading. *Id.*, at 41:18-25; 42:1-13. These loads are typically created by collapsing non-free-flowing phenomena, such as bridging, arching, and ratholing. Carson concedes that he has no explanation for why these loads are discussed in EP 433, given his opinion that EP 433 does not account for non-free-flowing grain loads. *Id.*, at 42:20-25; 43:1. In other words, Carson cannot explain why EP 433 discusses these potential phenomena of the commodities in a “non-free-flowing” state when he maintains that this Standard only addresses “free-flowing” commodities.

Carson also agrees that the upper portion of the hopper did not comply with EP 433, because it did not include the appropriate “safety factor” for compliance.

A The design of the upper portion of the hopper of this bin does not include the appropriate safety factors in accordance with ANSI using loads from EP 433.

Goodsell Aff., Ex. J, Carson Depo. 24:1-3. Again, this Hopper/Bin was the same design approved by Defendant before being manufactured and marketed by SSC. Goodsell Aff., Ex. A. Moreover, he agrees that Defendant’s failure to review this seam as part of its design review was “potentially an oversight on their part.”² Goodsell Aff., Ex. A, Carson Report, pg. 7.

Prior to his deposition, Carson’s Opinion as to the cause of the subject failure was that either (1) a bridge, arch, or “rathole” inside the bin collapsed and the dynamic load created by the collapse

² Carson alleges that someone at KC told him that “someone” at SSC told KC that reviewing the deficient seam was unnecessary. Carson does not identify who either of these individuals are alleged to have been. SSC intends to move in limine to exclude this hearsay-based Opinion.

overloaded the structural integrity of the Hopper; or (2) the air cannons used to stimulate the soybean meal exerted too much pressure on the walls of the bin causing it to fail. Goodsell Aff., Ex. A, Carson Report, pg. 6-13.

During his deposition, however, Carson moved away from his Conclusion with respect to the air cannons. Carson hedged: “Either it happened because of additional pressures exerted on the material and on the hopper section of the silo because of the firing of air cannons or -- and I think perhaps -- I won’t say perhaps, I would say, or more likely the failure occurred because of the sudden collapse of an arch or a rathole.” Goodsell Aff., Ex. J, Carson Depo. 53:6-12. When pressed further on the air-cannon issue, Carson fully conceded that the cannons were not likely the cause of the failure.

Q . . . Is it your opinion to reasonable engineering probability that the air cannon firing at 140 psi caused the seam in the hopper to breach?

A I believe that’s less probable than the second mechanism [a collapsing arch or bridge] that I described earlier. It’s possible but not probable.

Q So it’s not likely; is that fair?

A Yes.

Q And then the more likely cause of what happened here is a collapse of either an arch or the rathole?

A Yes, sir.

Q And those forces then caused it to collapse, correct?

A In my opinion, that was the most probable cause of failure, yes.

Id., at 61:23-25; 62:1-11.

Recall that it is SSC’s contention that Defendant’s failure to review the bolt spacing of the vertical seams of the top of the hopper cone, and therefore, the failure to identify and correct the mathematical error, was the direct cause of the hopper/silo failure in the Agropecuaria silo.

(Document 17.) According to Carson, however, even though Defendant failed to correct this mathematical error, which omitted the *safety* factor for the bolt spacing on the Hopper's vertical seams, this failure still would have occurred because the soybean meal became non-free flowing and the ensuing collapse created dynamic pressures which overwhelmed the bin's design. Goodsell Aff., Ex. A.

Again, it is undisputed that "ratholing, arching and bridging, with material such as grain or other bulk solids, have been known to the industry for a long period of time." *Id.* Despite this, Carson opines that the subject failure was caused by a collapsing bridge, arch, or rathole, for which, he contends, EP 433 does not account. Goodsell Aff., Ex. A.

As Carson explains it, "[i]f KC Engineering had looked at that radial joint at the top of the hopper and made a recommend -- or found that it was not up to code limit and it should have been made stronger, that would have -- that if that change had been made, that would not, in my opinion, have prevented this failure." Goodsell Aff. Ex. J, Carson Depo., 73:8-14. In other words, Carson concludes that if the design were within the EP 433 standard, it still would have failed.

In order for a rathole, bridge, or arch to exist, there must be a discharge of materials from the bin because a completely full vessel lacks a void around which a rathole, bridge, or arch could form. In this case, no significant discharge had taken place prior to the failure. Goodsell Aff., Ex. A. Logically, then, only a small void could have existed at the time of the collapse.

To reach his causation conclusion, Carson opines that the specific section of the Hopper that failed was the lower portion of the Hopper Cone, rather than the "collar," or upper portion of the hopper. Goodsell Aff., Ex A. The vertical seam at the collar of the Hopper Cone is the one which Defendant failed to review. Carson bases this conclusion on the opinion of Rodney Nohr, an engineering investigator, and not on any testing or other engineering analysis conducted on his own.

Goodsell Aff., Ex. J, Carson Depo. 69:1-25, *see also* Ex. N, Supplemental Report. Both Carson and Nohr rely on the video recording of the failure (which only records one side of the hopper), and their own ability to “eyeball” where the failure initiated. *Id.* Aside from the video recording of the collapse, Carson also claimed to rely on the calculations of ESI engineer Godoy, but admitted that Godoy’s calculations concluded that this failure occurred at the top of the hopper and “unzipped” down. *Id.*, at 76.

Finally, Carson admits that his firm had a pre-existing relationship with SSC. This relationship is incorporated into his expert report. It is undisputed that: (1) SSC reached out to J & J for the exact same design review done by Defendant; (2) SSC was a potential client of J & J; (3) SSC provided proprietary plans for the hopper/silo design; (4) Defendant offered advice on the proprietary plans submitted by SSC; (5) Carson incorporated communications between J & J and Plaintiff relative to the design into his expert report; (6) Carson never requested nor received Plaintiff’s permission to incorporate such communications into his report; and (7) Carson has enriched himself and/or his firm while using these communications to form his opinions at Defendant’s request. *Id.*, at 77:1-25; 78:1-25; 79:1-25; 80:1-25).

Legal Authority

I. Daubert Standard.

In a nutshell, Carson’s testimony will be used to “put the standard on trial.” In so doing, he attempts to prove a negative, *i.e.* that even though Defendant failed to uncover and correct a critical mathematical error, the bin’s structural failure still would have happened because soybean meal was stored in the bin. Of course, this Opinion disregards the fact that the design approved by Defendant was insufficient for even the “free-flowing” grains identified in EP 433. Goodsell Aff., Ex. L, O’Mara Depo. 88:18-23.

In addition to his criticism of EP 433, Carson also criticizes the use of air cannons to stimulate the soybean meal in the Hopper/Silo.³ As discussed below, each of these Opinions are unreliable, and should be stricken.

The Supreme Court in *Daubert* charged courts with the responsibility to act as “gatekeepers” that were to exclude unreliable testimony. *Daubert*, 509 U.S. at 597. This responsibility is greater than simply confirming an expert opinion that comes from a qualified specialist. The “trial court’s gatekeeping function requires more than simply taking the expert’s word for it . . . [t]he more subjective and controversial the expert’s inquiry, the more likely the testimony should be excluded as unreliable.” Fed. R. Evid. 702, Advisory Committee Note (2000) (citations and quotations omitted).

“The *Daubert* standard requires the trial court to ensure that an expert’s testimony both ‘rests on a reliable foundation and is relevant to the task at hand. Pertinent evidence based on scientifically valid principles will satisfy those demands.’” *State v. Loftus*, 1997 S.D. 131, ¶21, 573 N.W.2d 167, 173. In order for testimony to be reliable, it must qualify as “scientific knowledge,” meaning an inference must be derived by the scientific method and supported by appropriate validation. *Daubert* at 590.

In other words, to satisfy the reliability requirement, the party offering the expert testimony must show “that the methodology underlying [the expert’s] conclusions is scientifically valid.” *Barrett v. Rhodia, Inc.*, 606 F.3d 975, 980 (8th Cir.2010). “Scientific,” as stated above, “implies a grounding in the methods and procedures of science” and “knowledge” “connotes more than subjective belief or unsupported speculation.” *Daubert* at 590.

Although true that “[t]he rule clearly is one of admissibility rather than exclusion . . . [a]n expert’s opinion should be excluded . . . if it is so fundamentally unsupported that it can offer no

³ As discussed below, Carson has since admitted that this Opinion is possible but not likely.

assistance to the jury.” *Berg v. Johnson & Johnson*, 940 F.Supp.2d 983, 988 (D.S.D. 2013) (citing *Sappington v. Skyjack, Inc.*, 512 F.3d 440, 448 (8th Cir.2008)).

In making the reliability determination, the court may consider: (1) whether the theory or technique can be or has been tested; (2) whether the theory or technique has been subjected to peer review or publication; (3) whether the theory or technique has a known or potential error rate and standards controlling the technique's operations; and (4) whether the theory or technique is generally accepted in the scientific community. Additional factors to consider include: “whether the expertise was developed for litigation or naturally flowed from the expert's research; whether the proposed expert ruled out other alternative explanations; and whether the proposed expert sufficiently connected the proposed testimony with the facts of the case.” “This evidentiary inquiry is meant to be flexible and fact specific, and a court should use, adapt, or reject” these factors as the particular case demands.

Id. (citing *Russell v. Whirlpool Corp.*, 702 F. 3d 450, 456 (8th Cir. 2012) (additional citation omitted)).

In other words, for opinion evidence to be admissible it must rely on more than the “say so” of an expert. It must be supported by the field of expertise. “Where ‘opinion evidence . . . is connected to existing data only by the *ipse dixit* of the expert,’ a district court ‘may conclude that there is simply too great an analytical gap between the data and the opinion proffered.’” *Pro Serv. Auto., L.L.C. v. Lenan Corp.*, 469 F.3d 1210, 1216 (8th Cir. 2006) (quoting *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146, 118 S.Ct. 512, 139 L.Ed.2d 508 (1997)).

Additionally, expert testimony “based on possibility or speculation is insufficient [to establish causation]; it must be stated as being *at least* ‘probable,’ in other words, more likely than not.” *Barrett v. Rhodia, Inc.*, 606 F.3d 975, 985 (8th Cir. 2010) (citing *Fackler v. Genetzky*, 638 N.W.2d 521, 527-28 (Neb. 2002)) (emphasis added). In order for the testimony to be helpful to the jury, the opinion must rest on firm scientific footing, and cross the threshold from “possible” to “probable.” “Expert testimony that is speculative is not competent proof and contributes nothing to a legally sufficient evidentiary basis.” *Concord Boat Corp. v. Brunswick Corp.*, 207 F.3d 1039, 1057 (8th Cir.) For the

reasons analyzed below, Carson's Opinions and Conclusions fall below these standards and should be barred.

II. Court's Inherent Authority to Disqualify an Expert Witness Because of Confidentiality.

Next, it is true that an expert "does not advocate during litigation but acts as a source of information and opinion." *U.S. v. Salamanca*, 244 F.Supp.2d 1023, 1025 (D.S.D. 2003) (citation omitted). Nevertheless, "Courts have the inherent power to disqualify expert testimony, if necessary, to protect privileges, which would be breached if an expert were to switch sides, and to preserve public confidence in the fairness and integrity of judicial proceedings." *Id.* (citing *Chamberlain Group, Inc. v. Interlogix, Inc.*, 2002 WL 653893, * 2 (N.D. Ill. 2002)). Disqualification, however, is a "drastic measure which courts should hesitate to impose except when absolutely necessary." *Id.* (citation omitted).

Under the two-part test adopted by this Court in *Salamanca*, it is SSC's burden to affirmatively answer two questions: (1) "Did the first party have an objectively reasonable belief that a confidential relationship existed," and (2) "did the party disclose any confidential information to the expert." *Id.* (citing *English Feedlot, Inc. v. Norden Labs, Inc.*, 833 F.Supp. 1498, 1501 (D. Colo. 1993)). In order to meet this test, "the expert need not actually have disclosed any confidential information so long as 'the expert's contact with the opposing party has created a risk of improper disclosure of such communications.'" *Id* (citation omitted). As discussed in Part C, Carson not only received confidential information from SSC, but used that information in his expert report for Defendant's benefit, and SSC's detriment. Because of this, his testimony should be stricken.

Discussion

A. Carson's Opinions on EP 433 Do NOT Satisfy Fed. R. Evid. 702.

First, Carson, in both his report and during his deposition, is highly critical of the parties' use of EP 433 as the load standard for this Hopper/Silo design. Despite his criticism, Carson concedes that EP 433 is the only recognized U.S. load standard for steel bins. Goodsell Aff., Ex. J, Carson Depo. 43:5-8. He offers no alternative, recognized in the U.S. standard for soybean meal, but insists that the only U.S. standard (EP 433) is deficient for non-free flowing commodities. *See generally* Goodsell Aff., Ex. A. Carson admits that he does not recall any authority which states that EP 433 does not apply to materials which have the potential to be non-free flowing. Goodsell Aff., Ex. J, Carson Depo. 31:1-5. He admits that the commodities specifically discussed in EP 433 also have the potential to be non-free flowing. Goodsell Aff., Ex. J, Carson Depo. 26:25; 27:1-2.

With these inconsistencies in mind, Carson's causation opinion rests on the notion that the mechanism of failure in this case was due to stresses created at the bottom of the hopper, rather than the top, or collar, of the hopper.

Q ...let's talk about in terms of what happens when we have a funnel flow condition in the hopper.

A Okay. If we have a funnel flow condition in the hopper, then those pressures and, hence, the hoop stresses do not change from the initial fill conditions to the discharge or flow conditions. And that's well-established in various standards. It's well established in the literature that that's -- that's the condition that occurs.

Q So at the collar, if we have a funnel flow, there is no change of condition in the hoop stress; is that correct?

A That's correct, at least initially. Again, it's going to decrease over time as the level drops. But at least initially there's no change from that initial fill condition.

Q Does EP 433 address mass flow?

A It does, although the term mass flow is not used. EP 433 uses the term plug flow to mean essentially a mass flow condition.

Id., at 37:14-25; 38:1-8. His Opinion relies primarily on his observations of the video footage of the failure. Again, Carson has no structural engineering background. Goodsell Aff., Ex. A, Carson CV. Because Carson believes that the forces exerted on the bottom of the Hopper Cone were greater than the forces at the collar, he concludes that this is the most likely area of failure. Carson admits, however, that this opinion on the mechanism of failure is inconsistent with the comments of EP 433.

Q ...if there really is no change in hoop stress in terms of discharge from full to empty in a funnel flow, why is it necessary to discuss dynamic loading . . . as it's discussed in EP 433?

A That's a good question. EP 433, in my opinion and I think in the opinion of most experts in this field, is a highly simplistic, very inadequate design code. There are many -- well, not many. There are several codes and certainly a vast amount of literature that are consistent with my opinion, which I that if you have a funnel flow vessel, the change in pressures near the top of the hopper from an initial fill condition to a discharge is essentially zero. There is virtually no change in those pressures.

That's contrary to what's stated here, I recognize. But, again, this is, again a highly simplistic and not very well-presented document, in my opinion and the opinion, I think, most experts in the field who have studied this area.

Id., at 41:24-25; 42:1-13 (emphasis added). This is precisely the type of *ipse dixit* opinion that *Daubert* prohibits. *See e.g. Pro Serv. Auto., L.L.C. v. Lenan Corp.*, 469 F.3d 1210, 1216 (8th Cir. 2006); *J.B. Hunt Transport, Inc. v. General Motors Corp.*, 243 F.3d 441, 444 (8th Cir. 2001). Again, despite his Opinion that EP 433 is regarded as a “highly simplistic and very inadequate design code,” he cannot point to any peer reviewed literature supporting his opinion that the code was inappropriate for soybean meal. *Id.*, at 31:1-5. Carson’s opinion on EP 433 is the foundation upon which his Opinions and Conclusions rest.

Indeed, Carson's criticism of EP 433 parallels his opinion that J & J's loading standard is superior to EP433. J & J's standard, however, is not a nationally recognized loading standard, and Carson cannot point to any literature which supports his Opinion that EP 433 should not be used for steel bins housing soybean meal. Goodsell Aff., Ex. J, Carson Depo. 31:2-4.

Ipse dixit means "he said it himself." Carson's opinion is little more than him saying "I am right, because *I* say so." *Ipse dixit* opinions are not admissible under Rule 702 because they do not reflect reliable industry standards or customs, but personal opinion, not having the support of scientific reliability sufficient to help the jury in its determinations.

Carson's Opinions which rely on his *ipse dixit* sentiments regarding EP 433 are:

1. SSC knew that this silo was to be used to store soybean meal and that this material has the potential to be non-free flowing.

2. It was not appropriate for SCC to use ASAE EP 433 to design the silo, since soybean meal can be non-free flowing.

3. I find it surprising that SSC made a mistake in their design of the bolted joints that formed the hopper radial seams, since they had for years manufactured and supplied bolted cylindrical silos.

4. Since KC proposed to perform their review using ASAE EP 433 and SSC did not object, it was reasonable for KC to assume that the material to be stored in the silos they were analyzing would be free flowing.

5. KC had no way to know that soybean meal was one of the materials that would be stored in SSC's hopper silos.

6. KC lack of review of the design of the hopper radial seams was potentially an oversight on their part.

7. SSC should have provided information to Agropecuaria as to how to safely operate their silo when storing soybean meal, including, at a minimum, recirculation of the meal.

...

9. Moisture migration likely occurred while the meal was sitting in the silo after it was filled. This resulted in even more gain in the meal's cohesive strength than occurred due to gravity-induced compaction pressures alone.

10. Because the conical hopper section had a slope of 45°, a *funnel flow* pattern developed upon discharge. The result was that there would have been no change in material-induced loads acting on the hopper walls from the initial-fill loads unless an arch or rathole collapsed or air cannons compacted the soybean meal.

11. This silo did not fail because of material-induced loads resulting from gravity alone.

12. SSC's Kramer was aware that higher material-induced loads should have been used to design the hopper section.

13. The silo failed because the loads that were imposed on the hopper section were greater than the loads due to gravity alone.

Because Carson's Opinion that EP 433 is a "a highly simplistic, very inadequate design code," is unsupported and contrary to the controlling authority on the issue, each of these Opinions should be stricken as unreliable under the *Daubert* analysis.

Carson's Opinions on EP 433 manifest themselves in the following Conclusions:

1. A non-free flowing material, soy bean meal, was stored in it.

2. SSC failed to provide information to Agropecuaria as to how to safely operate this silo.

...

4. Allowing soybean meal to sit in the silo without movement for 4 1/2 days while the ambient temperature dropped further compacted the meal.

5. The silo did not fail due to material-induced loads resulting from gravity alone.

6. The silo failed because significantly higher, dynamic loads were imposed on its hopper section than the loads caused by gravity alone. These loads were due either to a collapsing arch or rathole or due to the firing of the air cannons.

Goodsell Aff., Ex. A. Because Carson's Opinions on EP 433 are unreliable, in that he and his firm *unilaterally* choose not to apply it, the Conclusions drawn from these Opinions are unique to the field of structural engineering. As such, SSC respectfully requests the Court exercise its "Gatekeeping" authority to prohibit Carson's unreliable testimony regarding EP 433.

B. Carson's Opinions and Conclusions Regarding Air Cannons Are Not Reliable.

The next issue presented by this Motion is Carson's Opinions and Conclusions relative to the air cannons installed in the bin to stimulate the soybean meal inside. It is Carson's anticipated testimony that these air cannons exerted additional internal forces in the bin which contributed to the structure's collapse. This is based on both his initial report, and his Supplemental Report. As discussed above, expert testimony must go beyond mere speculation and guesswork; "it must be stated as being at least 'probable.'" *Barrett*, 606 F.3d 975, 984 (8th Cir. 2010) (citation omitted); *see also J.B. Hunt Transport, Inc.*, 243 F.3d at 444. Here, Carson cannot meet this standard.

Carson admits that his Opinions and Conclusions regarding the air cannons installed in the silo to stimulate the soybean meal were not the likely cause of the bin's failure.

Q . . . Is it your opinion to reasonable engineering probability that the air cannon firing at 140 psi caused the seam in the hopper to breach?

A I believe that's less probable than the second mechanism [a collapsing arch or bridge] that I described earlier. It's possible but not probable.

Q So it's not likely; is that fair?

A Yes.

Q And then the more likely cause of what happened here is a collapse of either an arch or the rathole?

A Yes, sir.

Q And those forces then caused it to collapse, correct?

A In my opinion, that was the most probable cause of failure, yes.

Goodsell Aff., Ex. J, Carson Depo. 61:23-25; 62:1-11. Once again, *Daubert*'s "Gatekeeping" mandate prohibits expert "speculation." If the Opinion cannot be stated in terms of probability, rather than possibility, it is not helpful to the jury in reaching its verdict. *See Barrett, supra.*

The Opinions and Conclusions subject to this challenge are: Opinion 8, which states, “The manner in which the air cannons were fired further compacted the meal in the silo and significantly increased loads on the silo walls, particularly in the hopper section;” and Conclusion 3, which states, “The air cannons, which were supplied by SSC, compacted the soybean meal in the silo prior to its failure.” Goodsell Aff., Ex. A., pg. 8 and 13. This challenge also applies to Conclusions 2-4 of his Supplemental Report. Goodsell Aff., Ex. N, Supplemental Report. Because Carson admits that firing air cannons were not even the likely cause of this failure, this testimony should be stricken.

C. Carson’s Testimony Should Be Barred Pursuant to the Court’s Inherent Authority, as a violation of his confidential relationship with SSC.

The final issue presented by this Motion is whether Carson’s testimony should be stricken in total because it relies on confidential and proprietary information he received from SSC prior to its retention of Defendant. “Courts have the inherent power to disqualify expert testimony, if necessary, to protect privileges, which would be breached if an expert were to switch sides, and to preserve public confidence in the fairness and integrity of judicial proceedings.” *Salamanca*, 244 F.Supp.2d at 1025 (citing *Chamberlain Group, Inc. v. Interlogix, Inc.*, 2002 WL 653893, * 2 (N.D. Ill. 2002)). Disqualification, however, is a “drastic measure which courts should hesitate to impose except when absolutely necessary.” *Id.* (citation omitted). In this case, the privilege involved is not clearly defined even if the two-part test discussed in *Salamanca* weighs in SSC’s favor.

Under the two-part test adopted by this Court in *Salamanca*, it is SSC’s burden to affirmatively answer: (1) “Did the first party have an objectively reasonable belief that a confidential relationship existed,” and (2) “did the party disclose any confidential information to the expert.” *Id.* (citing *English Feedlot, Inc. v. Norden Labs, Inc.*, 833 F.Supp. 1498, 1501 (D.

Colo. 1993)). Although *Salamanca* involved an expert previously retained by an attorney in litigation, rather than one who received confidential information prior to the inception of litigation, the rationale discussed therein fits Carson's conduct in this case. In order to meet this test, "the expert need not actually have disclosed any confidential information so long as 'the expert's contact with the opposing party has created a risk of improper disclosure of such communications.'" *Id* (citation omitted).

Not surprisingly, the Engineering Code of Ethics, much like the Ethical Rules of the Legal Profession, binds a professional engineer to basic ethical rules of confidentiality and fidelity.

4. Engineers shall not disclose, without consent, confidential information concerning the business affairs or technical processes of any present or former client or employer, or public body on which they serve.

a. Engineers shall not, without the consent of all interested parties, promote or arrange for new employment or practice in connection with a specific project for which the engineer has gained particular and specialized knowledge.

b. *Engineers shall not, without the consent of all interested parties, participate in or represent an adversary interest in connection with a specific project or proceeding in which the engineer has gained particular specialized knowledge on behalf of a former client or employer.*

Goodsell Aff., Ex. M, National Society of Professional Engineers ("NSPE") Code of Ethics for Engineers, Rule 4.02915 (emphasis added). Much like the legal profession, an engineer cannot disclose a client's confidential information, or use such information to advance an opposing interest in connection with a project. *Id*. That is precisely what Carson and J & J did to SSC.

In this case, Carson admits his firm's pre-existing professional relationship with SSC. This incredible breach of confidence was even incorporated into his expert report. Goodsell Aff., Ex. A. These facts are undisputed: (1) SSC reached out to J & J for the exact same design review eventually done by Defendant; (2) SSC was a potential client of J & J; (3) SSC provided its proprietary plans for

the hopper/silo design; (4) Defendant offered advice on the proprietary plans submitted by SSC. Goodsell Aff., Ex. J, Carson Depo. 77:1-25; 78:1-25.

Carson further admits that he: (1) never requested nor received Plaintiff's permission to incorporate its confidential communications into his report, and (2) enriched himself and/or his firm while using these communications to form his opinions at Defendant's request. *Id.*, at 77:1-25; 78:1-25; 79:1-25; 80:1-25.⁴ Applying these facts to the *Salamanca* test, it is clear that Carson's testimony should be barred.

1. SSC had an objectively reasonable belief that it had a confidential relationship.

Under the first part of the *Salamanca* test, SSC must prove that it had "an objectively reasonable belief that a confidential relationship existed." *Salamanca*, 244 F.Supp.2d at 1025 (citation omitted). Here, SSC's expectation of confidentiality should be obvious. SSC was developing a new line of Hopper/Silo products. This line of products was intended to be incorporated into SSC overall business plan. The purpose of this project was to gain a competitive market advantage. Prior to manufacturing and marketing the new line of products, it prudently sought to have its design vetted by J & J. Goodsell Aff., Ex. J, Carson Depo., 77:1-25; 78:1-25; 79:1-25; 80:1-25. Employees for J & J requested and received the design for the new product line. *Id.* Communications about the loading requirements were had, and ultimately, J & J did not take the job. *Id.*

The fact that J & J did not take the job in no way factors into the *Salamanca* analysis. Instead, the question is asked and answered from the perspective of SSC. *Salamanca*, 244 F.Supp.2d at 1025. In other words, was it reasonable for *SSC* to believe that its inquiry to J & J would be kept confidential? Because of the nature of the inquiry with J & J, *i.e.* developing an entirely new branch

⁴ On May 4, 2017, SSC's attorney sent a letter to Defendant's attorney outlining these ethical concerns, and advising that the instant motion would be filed. SSC has not attached that letter. However, if the Court requires, SSC is willing to make that letter available for its review.

of the company's business plan, it strains reason to think that SSC did not expect that its design plan (and the communications regarding the same) would remain confidential. After all, if competitors received the company's design, it would lose the market advantage the plan was intended to achieve. *Salamanca*'s first prong is, therefore, satisfied.

2. SSC provided confidential information to Carson through J & J.

Next, under the second part of the *Salamanca* test, SSC must prove that it disclosed "confidential information to the expert." *Id.* (citing *English Feedlot, Inc. v. Norden Labs, Inc.*, 833 F.Supp. 1498, 1501 (D. Colo. 1993)). Here, as discussed above, Carson freely admits that J & J received and reviewed SSC's design plans. Given this, *Salamanca*'s second prong is satisfied.

3. SSC never waived confidentiality.

The final issue discussed in *Salamanca* is waiver. In this case, no waiver could have occurred because SSC permission for waiver was never requested nor received by Carson. Goodsell Aff., Ex. J, Carson Depo. 80:5-6.⁵ Given this, it is undisputed that SSC never waived confidentiality to the information provided to Carson through his employer. Accordingly, *Salamanca*'s two-part test is satisfied, and Carson's testimony should be stricken.

4. Public policy prohibits Carson's testimony.

Without question, this issue presents a unique set of circumstances. Neither the "privilege" described, nor the ethical rule discussed, sit on all fours with *Salamanca*. However, this should not dissuade the Court from following the rationale set forth therein. The fact that SSC was a potential client, rather than an actual client does not negate the fact that actual confidential information and communication were exchanged between J & J and SSC. The fact that SSC understood this

⁵ As discussed in FN 1, after Carson's report was issued, SSC made it clear to Defendant in its May 4, 2017, letter, that it did not waive confidentiality to the information discussed in Carson's report.

information to be confidential should be apparent by the nature of it. Allowing Carson to misappropriate confidential information of potential clients would create a chilling effect in the industry. It would create a disincentive for companies to take the prudent and safe step of having their new designs reviewed. If manufacturers knew that their confidential design information could be used against them in the event of catastrophe, they will be forced to make the business decision to forego such a prudent and publicly conscious decision, and instead, internalize design reviews without the benefit of a “fresh set of eyes.” The public interest is not served by this result.

It cannot be ignored that what SSC did in having its new design reviewed is precisely what should be done to protect the public. Public policy supports SSC’s efforts in this case. The greater public good suffers if Carson is permitted to testify.

CONCLUSION

For the foregoing reasons, Plaintiff respectfully requests that the Court strike Carson’s causation opinions because they fail to satisfy F.R.E. 702, *Daubert*, and should otherwise be barred pursuant to the Court’s inherent authority.

Dated this 15th day of March, 2018.

/s/ G. Verne Goodsell – Filed Electronically

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CERTIFICATE OF SERVICE

The undersigned, one of the attorneys for Plaintiff, hereby certifies that a true and correct copy of the foregoing *Plaintiff's Memorandum in Support of Motion to Strike Defendant's Expert John W. Carson* was filed and served electronically on the 16th day of March, 2018, with the Clerk of Court using the Odyssey File and Serve system:

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